

## AMENDMENTS TO THE CLAIMS

1. (Currently amended) A method of fabricating a thermoset article from a mold, comprising ~~the steps of:~~

providing a mold having a metal oxide coating on at least one ~~face~~ surface;

~~forming a metal oxide coating on at least one face surface;~~

treating the mold with a solution comprising an ionic release agent at the metal oxide surface, wherein the solution has a pH that induces an attracting charge on the metal oxide surface, wherein said charge is opposite to the charge; ~~providing of the release agent at the metal oxide surface to bond the release agent to the metal oxide surface;~~

providing a thermoset resin mixture in the mold; and

curing the resin mixture in the mold.

2. (Original) The method of Claim 1, wherein the mold is a glass substrate comprising silica.

3. (Original) The method of Claim 1, wherein the metal oxide is selected from the group consisting of transition metal oxides and ceramic oxides.

4. (Currently amended) The method of Claim 3, wherein the metal oxide is selected from the group consisting of  $\text{TiO}_2$ ,  $\text{TiO}$ ,  $\text{Ti}_2\text{O}_3$ ,  $\text{Ti}_3\text{O}_5$ ,  $\text{SnO}$ ,  $\text{SnO}_2$ ,  $\text{Al}_2\text{O}_3$ ,  $\text{Al}_2\text{O}$ ,  $\text{AlO}$ ,  $\text{ZrO}_2$ ,  $\text{Ta}_2\text{O}_5$ ,  $\text{HfO}_2$ ,  $\text{Y}_2\text{O}_3$ ,  $\text{Nb}_2\text{O}_4$ ,  $\text{Nb}_2\text{O}_5$ ,  $\text{NiO}$ ,  $\text{MgO}$ ,  $\text{MgO}_2$ ,  $\text{Fe}_2\text{O}_3$ ,  $\text{Fe}_3\text{O}_4$ ,  $\text{FeOOH}$ ,  $\text{Fe(OH)}_2$ ,  $\text{Cr}_2\text{O}_3$ ,  $\text{CrO}_2$ , and  $\text{CrO}_3$  or any combination thereof.

5. (Original) The method of Claim 4, wherein the metal oxide is  $\text{Al}_2\text{O}_3$ .

6. (Original) The method of Claim 4, wherein the metal oxide is NiO.
7. (Original) The method of Claim 4, wherein the metal oxide is MgO.
8. (Original) The method of Claim 4, wherein the metal oxide is SnO<sub>2</sub>.
9. (Original) The method of Claim 1, wherein the metal oxide coating is a thin metal oxide layer.
10. (Currently amended) The method of Claim 9, wherein the metal oxide is deposited on the mold by physical vapor deposition[[,]] or chemical vapor deposition, ~~or the like~~.
11. (Original) The method of Claim 10, wherein the thickness of the thin metal oxide is about 1 to about 2000 nm.
12. (Original) The method of Claim 1, wherein the metal oxide coating is formed by O<sub>2</sub> plasma or atmospheric oxidation.
13. (Currently amended) The method of Claim 1, wherein the metal oxide exhibits an isoelectric point greater than [[about]] 2.
14. (Original) The method of Claim 13, wherein the metal oxide exhibits an isoelectric point greater than or about equal to 4.
15. (Original) The method of Claim 14, wherein the metal oxide exhibits an isoelectric point greater than or about equal to 8.
16. (Currently amended) The method of Claim 15, wherein the metal oxide exhibits an isoelectric point greater than or about equal to 10.

17. (Original) The method of Claim 16, wherein the metal oxide exhibits an isoelectric point less than or about equal to 12.

18. (Original) The method of Claim 1, wherein the metal oxide exhibits an isoelectric point from about 7 to about 12.5.

19. (Original) The method of Claim 18, wherein the metal oxide is selected from the group consisting of  $\text{Fe}_2\text{O}_3$ ,  $\text{Fe}_3\text{O}_4$ ,  $\text{FeOOH}$ , and  $\text{Fe}(\text{OH})_2$  or any combination thereof.

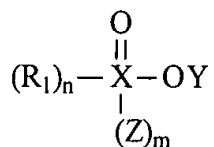
20. (Original) The method of Claim 1, wherein the metal oxide exhibits an isoelectric point from about 6 to about 7.

21. (Original) The method of Claim 20, wherein the metal oxide is selected from the group consisting of  $\text{CrO}_3$ ,  $\text{CrO}_2$ , and  $\text{Cr}_2\text{O}_3$  or any combination thereof.

22. (Original) The method of Claim 1 wherein the release agent is used as an internal release agent.

23. (Original) The method of Claim 1, wherein the release agent is an anionic compound.

24. (Original) The method of Claim 1, wherein the release agent is a compound with the following general formula:



wherein,

Y is any element or combination of elements that forms an acid conjugate upon dissociation,

X is any element that facilitates the dissociation and formation of a base conjugate with reduced chemical interaction with the resin mixture,

R<sub>1</sub> is any combination of elements that facilitates solubility within the resin mixture and provides a non-reactive barrier film,

n is either 1 or 2,

Z is either O or OH,

m is either 0 or 1.

25. (Original) The method of Claim 24, wherein,

Y is H, NH<sub>4</sub>, or NR<sub>4</sub>, wherein R is any aliphatic hydrocarbon chain,

X is P, S, or C,

R<sub>1</sub> is any alkyl, alkyl ester, or fluorinated alkyl esters, R<sub>1</sub> having from 8 to 20 carbon units,

n is 1 when X is C or S or when X is P and the compound describes phosphinic acid or di-acid phosphate esters, n is 2 when X is P and the compound describes phosphinic acid or mono-acid phosphate esters,

Z is O when X is S and the compound describes sulfonic acids, Z is OH when X is P and the compound describes di-acid phosphate esters or phosphinic acids, and m is 1,

m is 0 when X is C or X is P and the compound describes mono-acid phosphates or phosphinic acid.

26. (Original) The method of Claim 1, wherein the release agent is an ester or acid selected from the group consisting of phosphates, phosphonates, phosphonites, sulfates, sulfites and carboxylates.

27. (Original) The method of Claim 26, wherein the release agent is selected from the group consisting of monoacid phosphate esters, diacid phosphate esters, fluorinated monoacid phosphate esters, fluorinated diacid phosphate esters, perfluorododecanoic acid, octyl phosphinic acid, and perfluorinated alkyl phosphinic acid.

28. (Original) The method of Claim 1, wherein the release agent is used as an external release agent.

29. (Original) The method of Claim 1, wherein the resin mixture comprises an epoxy or an isocyanate.

30. (Original) The method of Claim 1, wherein the resin mixture comprises a compound selected from the group consisting of isophorone diisocyanate, 1,6-hexamethylene diisocyanate, xylylene diisocyanate, bis(4-isocyanatocyclohexyl) methane, cyclohexane diisocyanates, toluene diisocyanate, tetramethylxylylene diisocyanate methylene bis(cyclohexylisocyanate), bis 3,4 epoxy cyclohexylmethyl adipate, 3,4 epoxy cyclohexylmethyl-3'-cyclohexenylmethyl adipate and diallyl diglycol carbonate.

31-37. (Canceled)

38. (Currently amended) A method of using a float glass mold having a SnO<sub>2</sub> enriched surface, ~~wherein the method comprises~~comprising:

LAW OFFICES OF  
CHRISTENSEN O'CONNOR JOHNSON KINDNESS<sup>PLLC</sup>  
1420 Fifth Avenue  
Suite 2800  
Seattle, Washington 98101  
206.682.8100

treating the mold with a solution comprising an anionic release agent externally to the SnO<sub>2</sub> surface of the float glass having a negative charge, wherein the solution has a pH that induces a positive charge on the SnO<sub>2</sub> surface to attract and to bond the release agent to the SnO<sub>2</sub> surface.

39. (Original) The method of Claim 38, further comprising the step:  
providing a mold formed from the float glass.

40. (Original) The method of Claim 38, further comprising the step:  
providing a urethane resin in the mold and curing the resin.

41. (Original) The method of Claim 38, further comprising the step:  
providing an epoxy resin in the mold and curing the resin.

42-43. (Canceled)

44. (New) A method for making castings from oxide-coated molds, comprising:  
treating a mold with a solution comprising a release agent, wherein the solution has a pH that induces an attracting force on an oxide surface of the mold to bond the release agent to the surface.

45. (New) A method for making articles cast from molds, comprising:  
treating a mold having at least one oxide-coated surface with a solution comprising an ionic release agent having a charge, wherein the solution has a pH that induces the opposite charge on the oxide surface to bond the release agent to the surface;  
providing resin in the mold; and  
curing the resin.